
FIRE PREVENTION AND BUILDING SAFETY COMMISSION
Department of Homeland Security

Written Interpretation of the State Building Commissioner

Interpretation #: CEB-2021-27-2010 IECC-9.4.1.1 Exc. c.

Building or Fire Safety Law Interpreted

675 IAC 19-4 2010 Indiana Energy Conservation Code, Section 9.4.1.1 Automatic Lighting Shutoff.

Interior lighting in *buildings* larger than 5000 ft² shall be controlled with an *automatic control device* to shut off *building* lighting in all spaces. This *automatic control device* shall function on either:

- a. A scheduled basis using a time-of-day operated control device that turns lighting off at specific programmed times – an independent program schedule shall be provided for areas of no more than 25,000 ft² but not more than one floor – or
- b. An *occupant sensor* that shall turn lighting off within 30 minutes of an occupant leaving a space or
- c. A signal from another control or alarm system that indicates the area is unoccupied.

Exceptions: The following shall not require an *automatic control device*:

- a. Lighting intended for 24-hour operation.
- b. Lighting in spaces where patient care is rendered.
- c. Lighting in spaces where an automatic shutoff would endanger the safety or security of the room or building occupant(s).

Issue

Whether child daycare facilities are exempt from the requirement for automatic lighting control devices under "Exception c" of Section 9.4.1.1 of the *2010 Indiana Energy Conservation Code* (IECC) when psychological or emotional impact is claimed to result from the installation of the device.

Interpretation of the State Building Commissioner

No, child daycare facilities are not exempt from the requirement for automatic lighting control devices under "Exception c" of Section 9.4.1.1 of the *2010 IECC* when psychological or emotional impact is claimed to result from the installation of the device. "Exception c" is intended to address safety and security as they are affected by physical threats to the room or its occupants.

Rationale

The interested person argues that the occupants of child daycare facilities rely upon lighted environments to provide a sense of safety and security, and as such, IECC Section 9.4.1.1 Exception "c" exempts their spaces from otherwise required automatic lighting control systems. They maintain that unintentionally darkened environments deprive children of the security and safety that is necessary to their successful development, and as a result, these spaces should be exempt from the requirement for automatic shutoff of lighting systems. They state these unexpectedly dark environments commonly occur when a child enters an unoccupied dark room and experiences the system's momentary delay in detecting their presence and turning lights on, and when the occupants of a lighted room are still enough that the system fails to detect their presence and shuts off the lights while they are in the room.

We stipulate that occupant-sensor shutoff systems may create unexpectedly dark environments for brief periods. We will not, however, debate whether or how such conditions may be considered detrimental to child development. Rather we will focus on the general purpose and intent of the code.

When the code uses the terms "safety" and "security" in this context, it is within the generally accepted consideration of protection of public health from *immediate physical threat*. It is beyond the scope and intent of this regulation to attempt to influence the emotional development of infants and young children, particularly when it is invoked to protect them from an environmental condition (i.e., darkness) that occurs every day in the children's own homes. While designers may consider the psychological effects of their designs on the occupants of their structures, building regulation stops well short of that mark when it discusses the issue of occupant safety.

Further, lighting shutoff systems do not universally result in unexpectedly darkened environments. While Section 9.4.1.1 requires the use of automatic lighting shutoff systems, no designer is required to use occupant sensors to achieve that end. Other types of systems are allowed such as time-of-day programs. When appropriately programmed, the use of such a system would not result in children occupying a darkened space unless that was the intention of their supervisor.

The fact that one type of control system can produce unexpected shutoffs is not sufficient reason to exempt a space from the base lighting control requirement when other methods are allowed that produce no such surprise shutoffs, irrespective of any emotional or developmental effects the shutoffs may or may not have on occupants.

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